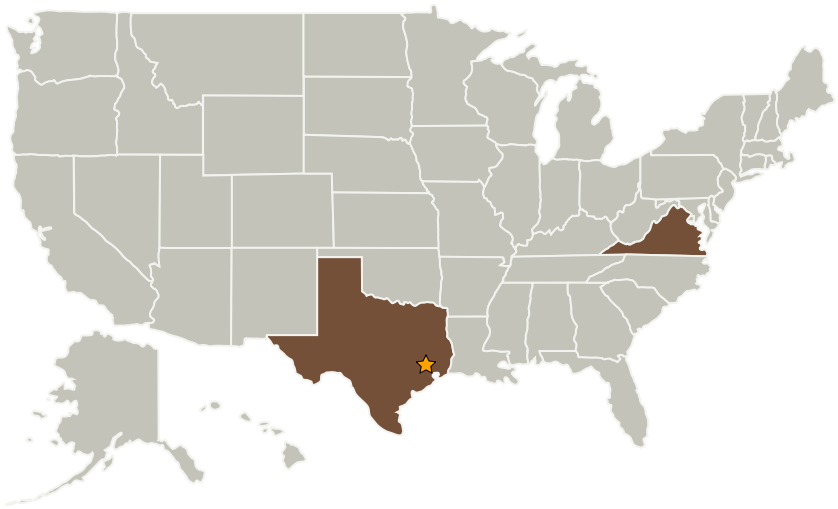
Novel Biodegradable Food Packaging Material, Phase I

Completed Technology Project (2008 - 2008)

Project Introduction

As manned-space exploration missions are pursued further beyond low-Earth orbit, such as to the Moon or Mars, crewmembers must be supplied with good quality food to provide a complete diet over a period of three years or more. Current food-packaging materials result in major solid-waste management issues. Novel food packaging materials that will eliminate or reduce solid waste while preserving the quality of the food are required for long-term space travel and stay. Materials Modification, Inc. (MMI) proposes to develop a biodegradable packaging material that can be used to transport and store foodstuff during extended space travel and stay. A nanocomposite will be developed that will be mechanically strong, resistant to microbes and possess good barrier properties during period of use, biodegradable beyond the useful period, and microwave-safe.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
Materials Modification, Inc.	Supporting Organization	Industry Small Disadvantaged Business (SDB)	Fairfax, Virginia

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Johnson Space Center (JSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations	
Texas	Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Ramachandran Radhakrishnan

Technology Areas

Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
  - TX12.1 Materials
    - TX12.1.1 Lightweight Structural Materials